



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09 980,059	11/29/2001	Eduard Rudolf Geus	TS 0858 US	9561

7590 12/20/2002

Richard F Lemuth
Shell Oil Company
PO Box 2463
Houston, TX 77252-2463

EXAMINER

NGUYEN, TAM M

ART UNIT	PAPER NUMBER
----------	--------------

1764

DATE MAILED: 12/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/980,059

Applicant(s)

GEUS ET AL.

Examiner

Tam M. Nguyen

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 29 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1 ☐ Certified copies of the priority documents have been received.
- 2 ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Art Unit: 1764

DETAILED ACTION

Claim Objections

Claim 6 is objected to because of the following informalities: the extra period at the end of claim 6 should be deleted. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2, 3, and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 recites the limitation "the gaseous fraction" in line 1. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

The limitation "the higher boiling liquid fraction obtained in the absorber section" in lines 1-2 of claim 3 renders the claim indefinite because the higher boiling liquid fraction is obtained from the stripping section, not from the absorber section. Appropriate correction is required.

Claim 7 recites the limitation "the methane separation selectivity" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Art Unit: 1764

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(c), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harandi (4,605,493) in view of admitted prior art.

Harandi discloses a process for separating a gaseous product including propene from other saturated and unsaturated hydrocarbons in a mixture by feeding the mixture into a first

Art Unit: 1764

separating zone to produce a hydrocarbon-rich liquid fraction and a hydrogen containing gaseous fraction. The gaseous fraction is then passed into an absorber zone and the liquid fraction is then passed into a stripping zone to obtain products as in the claimed process. (See entire patent)

Harandi does not disclose that hydrogen is being separated from the gaseous fraction before passing the fraction into the absorber section. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Harandi by separating hydrogen from the gas fraction because hydrogen is not a critical component in the process of Harandi. Therefore, one of skill in the art would remove hydrogen from the gaseous fraction if one desires and it would be expected that the results would be the same or similar when either hydrogen is separated from the gaseous fraction or not.

Harandi does not disclose the use of a membrane to separate hydrogen from the gaseous fraction. However, the use of a membrane to separate hydrogen from the gaseous fraction is known in the art (see the present specification; page 4, lines 25-28; page 5, lines 14-23). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Harandi by using a membrane to separate hydrogen from the gaseous fraction as taught by the prior art because of the effectiveness of the membrane. It is noted that the prior art does not specifically disclose the selectivities of membrane. However, the membrane of the prior art is similar to the claimed membrane. Therefore, it would be expected that the selectivities of the membrane of the prior art would be similar to the claimed selectivities.

Harandi does not disclose that the stripping section and the absorber section are combined in one distillation column. However, a distillation column, which comprises a

Art Unit: 1764

stripping section and an absorber section, is known in the art (see the present specification; page 2, lines 9-10). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Harandi by using a distillation column comprising both a stripping and an absorber sections as taught by the prior art because a distillation column comprising a stripping and an absorber sections has an equivalent function as the stripping section and the absorber section of Harandi.

Harandi does not disclose that the liquid fraction is fed to a position in the distillation column above the feed inlet of the gaseous fraction. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Harandi by feeding the fractions as claimed because one of skill in the art would feed the fractions in any location including the claimed locations and it would be expected that locations of feeds do not affect the outcome of the modified process of Harandi.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tam M. Nguyen whose telephone number is (703) 305-7715. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 703-308-6824. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-5408 for regular communications and (703) 305-9311 for After Final communications.

Application/Control Number: 09/980,059

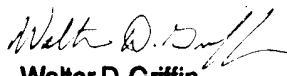
Page 6

Art Unit: 1764

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Tam M. Nguyen
Examiner
Art Unit 1764

Tam Nguyen/ TN
December 18, 2002


Walter D. Griffin
Primary Examiner